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Correspondence from particular farmers, giving

the results of their experience, is solicited.

Letters should be signed with the writer's real

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THE PLOUGHMAN offers great advantages to ad-

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munity.

AGRICULTURAL.

Northern-Grown Fruit.

In estimating the commercial advantages of our new island possessions, almost all the leading commercial papers make a great point that from these islands, especially Porto Rico and the Philippines, the American people will buy increasingly large quantities of the leading tropical fruits, such as oranges, lemons, bananas and some others that have been hitherto thought too perishable for long carriage by land or water. It is well known by travelers in tropical regions that their very finest and choicest fruits too delicate to reach our Northern market. Of the bananas, there are some superior to all we have ever seen which never leave their island tropical home. Some who have eaten them say they are better than any fruit we can grow in the North, but we fancy that those who say this have forgotten the taste of Northern-grown apples, pears, plums, grapes and strawberries. It is only because tropical fruits have been scarce and dear that they have borne so high prices. Most elderly people will remember what excitement is made among a family of young children when father went to the city and brought home a dozen or half dozen bright yellow oranges. These were a different fruit from any before seen, and the children, caught by their novelty, called them "best of all."

But was not this childish preference a great mistake after all? We believe it was. After the novelty of eating their "balls of gold," as they look, has passed, the orange soon becomes less liked than good apples, good pears and other fruits of Northern growth. There is nothing to oranges and lemons that can be eaten but juice. It is very grateful and healthful, but most people find that they cannot chew the hard fibre in which the orange juices are enclosed so as to safely swallow it. This fibre is tough, stringy and very hard to digest. Bitten into the best of apples, there may not be so much free juice as in the orange and the lemon, but there is less fibre and far more digestible nutrition. A person who has good teeth can chew a ripe apple so that its hard part will all be changed into juice mixed with saliva from the teeth and gums. If a man hasn't good teeth he can scrape the apple with a knife and thus eat, or still better, take out the core and seeds and grind it into elder, straining out the skin which gives astringent to the product. With a good hand elder mill fresh elder can be made every day so long as apples are in good condition. The pear can also be crushed into fine pulp, and this concentrated nearly wholly into juice like the apple. In fact, most of the best pears are so toothsome and luscious that even though a person has not the teeth to chew them they will fairly "melt in the mouth" when taken into it.

Do we ever receive from the tropics any fruits that in quality can compare with those we have named? We much doubt it, and doubt also whether it is possible to grow in the tropics fruits that are as good as the best of those grown far North. It is thought with justice that the soil and the climate of the tropics are such that they are fitted to produce only such fruits as are fitted to the soil and climate of the tropics. The higher the latitude; but each of these lower latitudes is filled with an amount of heat and light to no one could have supposed possible in northern regions. It is the almost universal rule among vegetable products that the highest excellence in grain is produced when it is grown near the equator. Hence there is always an advantage in procuring seed of any kind from northern regions, rather than from the same neighborhood where the crop is to be sown or planted.

So instead of people of this country relying more and more on tropical fruits, and importing them extensively, we believe the reverse will be the fact. The people of Cuba, Porto Rico, the Philippines and

eastern Asia, when they learn the superiority of our Northern-grown fruits, will demand them in preference to those grown in the tropics. Europe is learning that the Northern States of this Union and Canada also can supply fruits vastly superior to those grown in continental Europe, and at so much cheaper rates than can there be afforded, that it is only the prevalence of fungus and insect enemies, especially of the apple and pear, that prevents us from monopolizing their markets for these fruits. Many of our best native grapes have a delicious aroma that cannot be found in most kinds of foreign grapes. We look for the time to come, and that within a few years, when the large European demand for all these fruits will prevent our market ever from being glutted, as it now often is, compelling fruit growers to market their products sometimes for less than the freight and brokers' commissions.

This has a very important bearing on the future of American farming, especially in New England and the lower lake regions. All these are naturally adapted to fruit growing. Wherever there is soil enough on the hills of New England apple trees should be planted in every available place. Near Lake Champlain, both sides the lake and probably near deep lakes in northern New England, most delicious grapes can be grown. Pears have their natural home in the deep clay soils that prevail in many localities. All New England is abundantly watered, and it has mostly a dry, clear atmosphere while fruit is growing. These insure high-colored fruit of superior flavor, such as needs no praise, but will sell itself wherever it is offered.

Farm Hints.

It is time to begin to look for farm help as will be needed for the coming season. The best help is usually cheaper than cheap help if one can only guard against getting the man who knows so much and is so sure of it that he will not work in any other way than that which he has already been accustomed. If the farmer is young and inexperienced he may need to employ such a man to teach him, but he will be very for it afterwards, for usually such men would be employing others instead of hiring themselves out, if they had not some serious faults of habit or temper that make them unfit for other men to work under or with, and when a man feels that his services are indispensable to his employer it is usually time to try to get along without him. But a really good man, who will do the work as he is told, and work faithfully for the interest of his employer without being watched, is worthy of liberal wages, and it would be better to have him the year through than to chance the losing his services when he is most needed. Such a man becomes almost like a partner in the business, and with him one can almost feel as if he were, as the gardener wished he were, "twice, so that one-half could stay at home while the other half went to market."

Farmers could well unite in owning a good spraying apparatus, where one has not use enough for it to keep it alone. The advantages of spraying are by no means limited to the orchard and the bush fruits. There are many of the garden crops that are benefited by spraying, either with the copper sulphate to keep off rust and blight, or with kerosene emulsion to destroy plant lice or other insects. We have seen beets and celery sprayed greatly to the advantage of the crop when rust had begun to show on them, and another crop of carrots saved from destruction by plant lice, which they would soon have destroyed if spraying had not been resorted to.

While we do not doubt that the circular-stave silo is much better when well built than the forms in which the earlier ones were built, yet for those who keep but a few cows the small silo made by lining a bay in one corner of the barn has done good work and has enabled many to largely increase their stock without being obliged to buy hay, or, if they did not desire to do this, they have been able to add to their income from the farm by selling hay. A silo 10 by 12 feet on the sides and 15 feet deep would hold when full about enough enough to feed 10 cows through the winter, as it should be fed, that is, with a little hay each day. Those who have not such a silo or a better one should make it ready this spring and get ready to put in corn enough to fill it. Those who have done so years ago have not repented it, excepting perhaps by wishing they had built larger, and that is easily remedied by building another, for two small silos are better than one large one. The advantages of the silo are not limited to the winter feeding, as many learned last summer who were fortunate enough to have ensilage left on hand to use during the dry season.

Clover seed may be sown at almost any time now, and it will be an excellent plan to sow both clover and grass seed early in spring and early in the fall. Where the grass has winterkilled, or where it was injured by last summer's drought. There are many fields too good to plow up, or more, perhaps, than are needed for cultivated crops, that will not yield so much as they should this year by reason of such spots in the clover. The clover will add to the fertility of the soil when the time comes that it may be plowed again. If the soil is rather poor a dressing of some good fertilizer sown on such places at the same time will help to give the clover and grass seed a good start and increase the crop. Such treatment will also help to keep down the weeds, and while we have little use for weeds anywhere, we do not like them in the hay. They sometimes injure the flavor of milk and butter, and their seeds go into

the manure heap to make more trouble another season.

Tuberculosis and Tuberculin.

When the tuberculin test was adopted, and a commission appointed by the State of Massachusetts to use it upon the cattle of this State, with authority to kill all animals that responded to the test, I protested through your columns against such action, upon the grounds that tuberculin had not been proven a reliable test; that the symptoms given as indicative of tuberculosis were the same as were known a half century ago under various names, as horn all, farget, chronic cough, etc., and that they were far less frequent now than then; that this improvement was due to better stable and better care, and that care in regard to proper sanitary conditions would do more

this disease for 10 or 12 years. All milk produced from these cows was consumed by humans as milk, yet the report shows the same disease here, as in other institutions.

In the State of Massachusetts, the records have been well kept for half a century. In 1835, 43 per cent of every 10,000 population died with consumption; in 1893, only 19 in every 10,000. This decrease has been steady and gradual.

Dr. Austin Peters, president of the board of cattle commissioners, testified that about 25 per cent of the cows of that State showed tuberculosis by physical examination, and about 30 per cent by tuberculin test, which was less than formerly. Considering the large number of people, and the number of years covered by this record, it seems to me that the number of persons who die

They therefore recommend the abolition of the present tuberculosis commission, and that the work be placed in with the commission of agriculture. I think they could not have gone farther to support the position I took in your columns so many years ago if they had been my paid attorneys.

M. F. A. M. S.

Does Maple Sap Flow Up or Down?

This is one of the questions about which every sugar maker has speculated and argued. The Vermont Experiment Station has for several years been studying the pressure and flow of maple sap. Some of the important problems will receive further study; but certain facts have already been discovered.

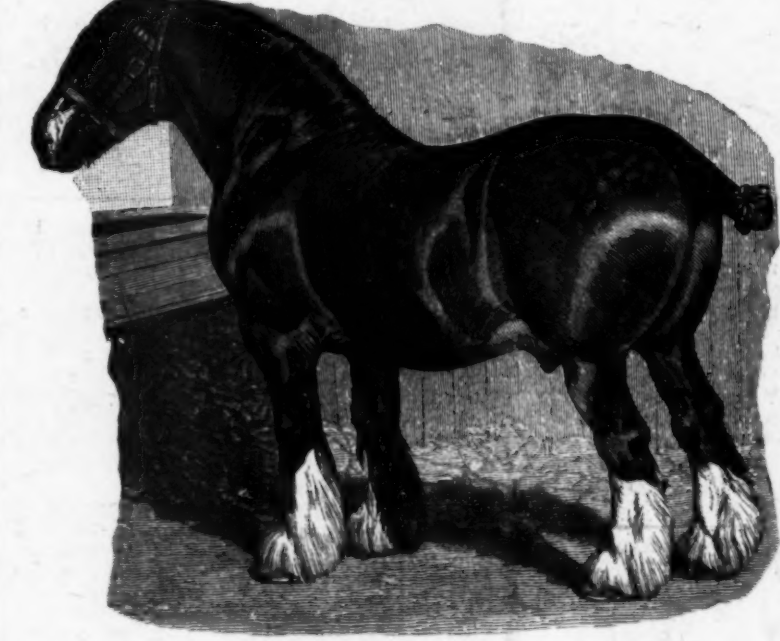
Maple sap consists principally of two elements, water and sugar. The sugar is all manufactured in the green leaves and a part of it is stored in the twigs and trunk of the tree to be used in the early growth of the next season. The water is all absorbed from the soil. Examinations made in January show that the wood is then saturated with sap, about 40 per cent of its weight at that season being water. If the entire tree weighs 10,000 pounds, therefore, there is in it some 4,000 pounds of sap, and if this contains three per cent of sugar, there would be in the tree some 120 pounds of sugar in solution in the sap. During the summer season there is probably little movement of this sap within the untapped tree, but this sap may be under great pressure. The pressure, on a good sap day, may rise in such a tree to the startling amount of over 20 pounds to the square inch, as registered by steam pressure gauges used in the experiment station investigations. When this pressure is relieved by tapping at any point there is a tendency to drive the sap from all directions out through the tap hole. Careful experiments indicate that the sap moves very easily and rapidly with the grain of the wood, but very slowly if at all across the grain, and that, as a result, the points where the sap flows from above and below, but not to any appreciable amounts from the sides. Two or more tap holes on different sides of the tree will therefore drain more sap from the tree than will one.

These experiments indicate also that the upward and downward flow of the sap into the tap hole is about equally rapid. These points were proved by a careful and complicated chemical experiment which gave very delicate results but which cannot be well explained here. The station expects some day to publish a full report of these interesting experiments, but the simple conclusion may now be accepted as settled that sap, at sugaring time, flows both up and down, but not laterally around the tree trunk.

Re-seeding a Run-Down Sod.

In all cases when sod of any kind is plowed the first step to be put in should be one which requires cultivation during the summer so as to fit the land for grain and grass seeding. Clover sod cuts down to plowing in spring or the previous fall that the soil can be made compact enough to allow grain or grass seeds to grow through the season. But the trouble is that the effect of plowing a sod is to turn it on edge with surface space below. So long as the sod is rotting down the soil above the furrow pushes it down, causing a constant falling away of the soil from the surface, leaving the roots dangling in air, and without moisture or nourishment. A field of grain sown on a newly turned sod falls as soon as summer heats cause more rapid fermentation, and the spring grain becomes a failure. It does so even when the land has been plowed late in fall, as at this time most of the rotting is done in the spring. Clover sod plowed in August, and well cultivated during that and the following months, may grow good spring grain, but it cannot be seeded with grass or clover seed the following spring.

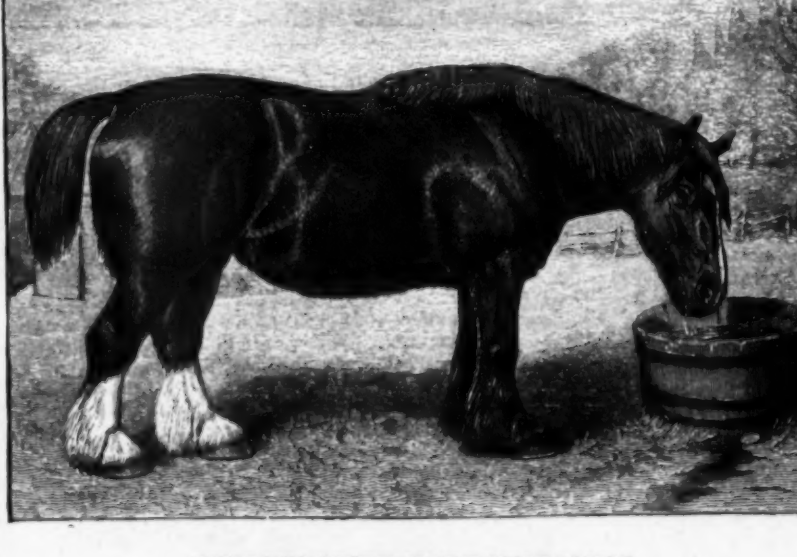
In the dry season of 1899 many pastures and meadows lost their seeding, and there is temptation to hurry matters by plowing and trying to seed with some grain crop the present spring. The attempt will almost certainly prove a failure, even if the season for spring seeding is favorable. The best plan is to plow and manure as far as possible early as the land can be worked, and fill in corn in rows far enough apart to cultivate for winter feed. What cannot be manured should be cultivated just the same until June, when it will be worked down sufficiently to grow a crop of millet hay that will be worth more than the timothy or other grasses that have grown on such land for years. If the hay is cut off early enough plow the millet stubble and sow rye, seeding with grass and in the spring with clover. If some gypsum is sown on the 1st of spring it will help the clover. Between the fall-sown grass seed and the spring-sown clover there will probably be a good catch, and this, without losing any crop, will make more hay than the land has produced for years. If some potash can be put on this land it will help to keep the grass vigorous for a longer time. Most of our grass lands lack mineral fertilizers, and their failure is more often from lack of potash or phosphate. These may be in the soil, but in unavailable form. We have found common salt, which is much the cheapest mineral, a good application for grass lands. It helps keep them moist, and this makes the color and more valuable minerals in condition to be used. It should always be sown on land to which the more expensive minerals have been applied. Taur, though salt is not a manure in itself, its application at the rate of 200 to 300 pounds per acre often doubles the effectiveness of all the other fertilizers that have been used.



SHIRE STALLION.
Winner of Challenge Cup at the London Shire Horse Show.

to save our cattle from this disease, and more than all, that there was no direct proof that consumption had ever been produced in any human being by using milk or meat from such animals.

For expressing these opinions I was many times ridiculed, not only by my acquaintances but by certain other agricultural writers, and it is possible that you shared some of the blame for printing the opinions of an ignorant crank who was opposed to progress, or anything which was not known 50 years ago. I believe I saw one or two



ENGLISH SHIRE MARE STARLIGHT.
Prize Winner at the London Horse Show.

such expressions. I wish therefore to call your attention and that of your readers to the report of the New York Assembly investigating committee on tuberculosis and other cattle diseases, which they have recently presented to the assembly.

The committee examined more than 60 witnesses during the investigation, about one-half of whom were experts, the rest leading farmers.

At the first hearing Dr. Edward Moore of Albany, member of the Royal College of Veterinary Surgeons, England, read an exhaustive paper in which he held that the tubercle bacillus in man and animal were not identical, and that the disease is not transmissible from animal to man, or from man to animal.

Dr. Theobald Smith, M. D. of Harvard University, who has been for many years studying the identity of bacilli in man and animal, said that he had not in any instance found the tubercle bacillus in human and bovine identical, and that he did not consider bovine tuberculosis a great menace to public health. Dr. James L. W. of the State Veterinary College at Ithaca, N. Y., thought the disease might be transmitted from animals to man in some instances.

The committee found in the State institutions, where for many years the milk furnished the inmates has been from tuberculous cows, that in every instance the percentage of deaths from consumption has been gradually decreasing. In at least one such institution, having about 1300 inmates, the cows furnishing milk for such institution have been occasionally dying from

doors and windows, or to water chilly blasts out of doors, should be carefully guarded against.

Heavy cows, unaccustomed to stand on hard boards, may have a rise of temperature in connection with the resulting tenderness of the feet.

7 Omission of the previous milking or a change of milker, and consequent retention of part of the milk, will raise the temperature of a nervous cow, and in careless hands secure an erroneous cow demerit.

8 Privation of water at the regular time will often cause rise of temperature, especially when on the dry feeding of winter.

9 Change of food is liable to produce a slight indigestion and rise of temperature.

10 An animal with advanced tuberculosis sometimes fails to react.

Please notice that he gives in 10 of these rules instances in which the animal would respond to the test and yet not have tuberculosis, while in the last the reverse is true. The report says: "The decrease in the percentage of deaths from human consumption, already referred to in this report, has not been brought about by the discovery of any remedy for the disease, but by more sufficient clothing, more sunlight in the home, and better sanitary conditions generally."

Salt and also phosphate and potash have effect on grain crops of keeping the straw free from rust. It probably does this by going into the sap and thus obstructing its too rapid flow, which is always the result where stable manures or other nitrogenous fertilizers have been applied. Hence on the richest lands, as well as on the poorest, some mineral fertilizers is required in growing good grain crops and seeding down with grass or clover.

Selection of Stallions for Breeding.

By this time a considerable proportion of the breeders have decided upon their line of breeding for the present year—but there are a good many that are yet undecided. There are certain considerations that should be kept in mind in the selection of the horses they will use. Probably family is the first consideration. The majority of breeders breed for the market, and everybody knows the great advantage that a fashionably bred horse or mare has over an unfashionably bred one, when the produce is placed upon the market.

If your horse has the requisite speed and other qualities the breeding is less important. He may sell for a good or even a very large price anyhow, but even then he would sell for a better if fashionably bred. If a great trotter and lacking in breeding, the purchaser realizes that he cannot be used so successfully in the stud, and this consideration is an element of value. The judicious breeder will select the stallion he patronizes from fashionable lines.

The next matter in importance is the character and qualifications of the individual horse. One rule which should be subject to very few exceptions is that if you would not be satisfied with a reproduction of the sire in view do not breed to him. If he has hereditary defects which are an objection to him, they will be equally objectionable in his progeny, and there is no law more undeviating in its workings than "that like produces like."

The foal is the joint product of the sire and the dam and their ancestry. All their qualities are not necessarily reproduced in every foal, but any one of them is liable to be—the bad as well as the good, and if not in the immediate progeny then almost certainly in some of their later descendants, and the wise breeder does not breed for one generation alone. He looks to the more remote future as well as to the immediate future.

Where one builds a house he avoids defective material in the foundation, because upon it depends the safety and permanence of his structure. Every breeder has an ambition to build up a great family of horses, and the family that has many weak points is not likely to last very long. People sometimes flatter themselves with the idea that weak characteristics may be bred out, and so they may, but they are more likely to recur in some future generation and precisely where they are least wanted.

Sufficient size is a good characteristic in a sire, but it is probably the least permanent of all. Want of size can be to a considerable extent remedied in a family by judicious crossing and generous feeding. Many small horses are successful as race horses and as sires of race horses. Still as a horse from 15 to 16 hands high is usually preferred, it is well to look at this consideration in breeding for the market, though without sacrificing more important matters.

The points to which training-horse breeders pay the strictest attention is speed and the ability to sire speed. Of course, this is extremely important, as without it the trotting horse is useless, except as a drudge. The greatest uniformity of speed production in the families of both sire and dam, and running back as far as possible, is important. It has been argued, and even believed by a good many people, that the family of the sire as a speed factor is more potent than that of the dam, and others have taken the opposite view and attached the greater importance to the family of the dam.

We strongly incline to the belief that both these views are erroneous, and that the true theory is that in the long run and on the average they are as nearly as may be equal, with very possibly a strong tendency towards cross heredity, that is, the male offspring is apt to resemble the dam rather than the sire, and the female offspring the sire rather than the dam. These tendencies are not absolutely infallible in any particular case, but the general rule, we think, about as stated.

There never yet was too much speed in any pedigree, and there never was too long a line of good breeding in any family, for the reason that under the law of atavism (or "harking back," as it is sometimes called) there is always a tendency to revert to more remote ancestry, and no one knows how far back this reversion may extend. Three or four generations will, in most instances, make the horse—but in the thoroughbred five crosses are regarded as essential to establish the breed. Sometimes, though rarely, the appreciable influence of an ancestor may come from a more remote source. The potency of the particular strains through which the influence reaches an individual will largely affect the determination of this question.

We never yet knew a purchaser to object to a horse because his pedigree contained too many sires of speed and too many great brood mares, or too much good trotting breeding. Even gentlemen from whom a different conclusion might have been expected very easily reconcile themselves to such peculiarities of pedigree.

Conformation is a consideration that can by no means be neglected. The shape of a horse is very material, and the difference in the selling price of a good looking animal needs no argument. This is, therefore, a point to be well considered. From the Kentucky Stock Farm.

Bees and Honey.

The person who keeps many colonies of bees needs a honey house or a honey room in his house, as much as the dairyman needs a milk room. It should be unlike the dairy room in being in a warm corner, exposed to the rays of the sun, and perhaps even painted red to attract them. Here the honey is to be stored to ripen before it is sold, and it does this best in a warm place. It should be large enough to store surplus hives, supers, frames and sections, empty

head. Norfolk spinash irregular in quality and while prime brings \$2 50 a barrel, others are all grades from that down to 50 cents. The prime is scarce and the other too plentiful. There is no native endive and imported brings \$3 a dozen. Dandelions are \$1 per lb at 1 38 a bushel, beet greens higher at 40 cents to \$1, and parsley \$2 to \$2 25 a bushel. String beans are scarce and choice lot is brought \$6 50 to \$7 a crate. A few peas \$3 50 a cys. Mushrooms are scarce again and held at \$3 to 40 cents a pound. Turn-

THE CASTOR OIL PLANT.

lettuce \$1.50 to \$4 Norfolk kale \$1 to \$1.25 a barrel and spinach \$1.25 to \$2.25 a barrel with no fresh arrivals lately. Florida peas are \$1 to \$5 a crate and California peas \$1 to \$2.25 a flat case. Florida string beans \$5 to \$6 a crate for prime, and poorer lots at \$1 to \$4. Florida radishes \$1 to \$1.50 a basket and tomatoes \$1.50 to \$4 a carrier. They are coming of better quality than last week ago. Florida peppers \$2 to \$3 a carrier and Havana \$2.50 to \$3, with okra \$1.50 to \$2.25 a carrier. Old onions \$1.50 to \$2.25 a carrier.

of the human frame. For throwing off fevers they are specially renowned. These are "facts" admitted by thousands, in all classes of society, and one of the best guarantees to the Nervous and Debilitated is that Beccam's Pills have the Largest Sale of any Patent Medicine in the World. This has been achieved

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OUR HOMES.

The Workbox.

FENCE JUG.

In England these fence jugs are put on the mantel or bureau to collect odd pennies and change. The rule given below is for a pitcher-shaped jug.

One ball each of Hemlaway's brown silk and a pretty contrasting blue. A steel hook No. 4. A round brass ring filled with double crochet.

Commence at the bottom of the jug with brown, and chain 20 stitches to join round. 1st round—Work 29 doubles under the chain (double crochet is inserted hook in stitch, draw silk through, then through 2 stitches on hook), but in work under the round you simply put the needle in hole made by the chain.

2d round—Two trebles into each stitch, except the last, in this work 3 doubles to make the correct number of stitches (49) for the scallops.

3d round—O is double into a stitch, 1 half treble into next, 3 trebles into next, 1 treble, 1 double treble, 1 treble in next, 3 trebles, 1 half treble in next, 1 double in next, repeat from beginning of the row 6 times more.

4th round—O is double into each stitch, except the points; in each of the 7 points work three doubles.

5th and 6th rounds—Like 5th round.

7th round—Pass by 1 stitch, (*) 1 double into each of 7 stitches, 3 into the point, 1 double into each of 7 stitches, pass by 1 stitch, and repeat from (*) 6 times more; there will be only 1 stitch to pass over at the end of last repeat.

8th and 10th rounds—Like 8th round, but with blue.

The rounds are now all like eighth, changing colors only.

11th to 19th rounds—With brown.

20th round—With blue.

21st round—Brown.

22d round—Blue.

23d round—Brown.

24th round—Blue.

25th to 34th rounds—Brown.

35th round—Blue.

36th round—Brown.

37th round—Blue.

38th to 41st rounds—O is double into each stitch, except the two in the depth of scallop, these must be passed over.

42d round—With blue, work a row of angles, passing over a stitch here and there; if necessary to draw the top part, give a single through which a penny will pass easily in and out.

43d round—With brown 1 single into each stitch.

44th to 54th rounds—With blue, 1 treble into a stitch, 1 chain, pass by 1 stitch and repeat.

55th and 56th rounds—One single into each stitch.

57th round—Five trebles into a stitch, 1 treble into the next, repeat from the beginning of round.

Now cover the curtain-ring closely over with double crochet and slip it over the top of the jug.

For the handle, work with brown silk, 1 treble into each of 6 stitches of the last row of angles, work 2 inches of alternate blue and brown rows of 1 treble into each stitch, work the two edges of the rows together with angles on the top part, give a round appearance to the handles, sew the end to the back of jug.

[Treble crochet is silk over hook once, insert hook in stitch, draw through two stitches twice. Half treble is the same, except you draw silk through the three stitches all at once.]

EVA N. NILES.

Bad Teeth.

Dr. Lomaol says that the foundation for bad teeth is generally laid in early childhood, for numerous mothers and nurses very carefully select the food or remove the crust from the breast before giving it to the little folk, because it may otherwise "hurt their teeth," and so the child grows up with a set of unused organs of the mouth, and when we have finally succeeded by the creation of artificial conditions in producing weak organs then we wonder why the poor child has such bad teeth, and why is it so often suffering the toothache, and why the dentist's bill is so high. Teeth are organs specialized to perform the work of mastication. They are subject to the same laws that govern other organs, and their strength is determined by their use. Understanding this we are obliged to admit that if we ever become a toothless race it will be our own fault.

The Care of Lamps.

Experiments with many of the suggestions concerning the care of lamps will almost always and surely lead to the conclusion that the suggestions are useless, or worse than useless. For example, household writers always advise the housekeeper to "trim the kerosene lamp wicks every day, taking good care to cut off all the wick that has been blackened and charred." Now it will take but little experience and little thinking to show that such trimming is wasteful of both wick and oil, and will surely result in a poorer light than may be had otherwise.

If the housewife will, instead of cutting off the wicks so as to expose fresh fibre to the flame, let a good bit of the charred wick remain, merely keeping it even so as to insure an even flame, she will be surprised to find that the charred end will give her a whiter, clearer and better light than will the fresh fibre of the trimmed wick. She can get a perfectly satisfactory light out of a quarter of inch of charred wick. The reason is plain. The fresh wick must turn into charcoal as it burns. While it is charring, it must give off the product of its own combustion along with the products of the combustion of the kerosene. While this is going on, the flame will be reddish in color. The charcoal, after it is formed, is capable of enduring unchanged for a long time the heat of the flame, and therefore it merely serves to pass the kerosene from the fresh wick below it up to the flame line. The electric-light lamps do not burn fibre, but charcoal made from fibre, and the kerosene lamps may well imitate the electric-light lamps in using charcoal rather than fresh fibre as a flame-point. I have burned wicks in kerosene lamps a month continuously, several hours each evening, without trimming the wicks, merely keeping the charcoal end evened off, and had fine light for each night during the whole time.

Other current suggestions are equally open to question. One writer says that "wicks should be soaked in salt water to make them last longer and give a clearer light." Wicks thus treated will neither last longer nor give a clearer light. The salt in the water will surely clog the tubes and interfere in the wick, and thus destroy its capillary power. As it is the cap-

illary attraction that lifts the kerosene from the reservoir up to the flame point, it follows that anything which obstructs the capillary tubes in the wick must destroy its lifting power. The salt will surely clog those tubes.

Other writers suggest the "thorough boiling of the wicks" in clear water, in clear vinegar or in salted vinegar, and all these methods will simply spoil the wicks. Remember that the wick is made up of fibres that enclose very small tubes, that the kerosene must pass up through these tubes to the flame point, that only a very small amount of matter is needed to clog these tubes, and that boiling will close them, and you have the reason for never following such suggestions.

Keep the lamps well filled, in order to leave as little space as possible for gas to form inside the reservoir. Lamps do not explode when full.

Do not let a lamp burn "turned down." Burn it at full flame, so that it may consume the gases formed as the kerosene comes into contact with the flame. Turn the flames out, never down. The unburned gas from a low-turned lamp is a deadly poison.

Never use a wick that does not fill the slot. If the wick be too narrow, the flame may run down, or be blown down, through the open part of the slot, ignite the gas or kerosene, and thus cause an explosion.—New York Farmer.

Borax a Domestic Remedy.

A simple domestic remedy is borax. My mother kept a solution of salt water and borax constantly on hand, and if the slightest irritation or sore throat developed among us she had us gargle three times a day and have our mouths and tonsils freely. Our good health and freedom from fevers and contagious diseases was owing, in part, no doubt, to its use.

In the case of a burn, we wet cloth, dipped in a strong solution of borax, and were very careful to exclude the air in putting them off and on. It is very cooling and healing, and a child does not rebel against it as with some remedies. One thing in its favor in using it among children is, it is so harmless, while other gargles with carbolic acid are often taken by mistake, and cause great distress. I often think if every young mother only knew of its virtues she would be thankful, and if she once used it, would never give it up. As a disinfectant it is excellent. One should keep it on the kitchen shelf.

If you awaken in the night coughing and cannot stop, get a small portion of powdered borax and place on your tongue, and let it slowly dissolve, and it will almost instantly stop the cough, as it will almost relieve a ulcer in the throat. Our great singers use it to aid them in keeping the throat in health. Water will dissolve only a certain amount of borax, and so all one need to do is to put a quantity into a pint or quart bottle and pour on water. What cannot be dissolved sinks to the bottom, and when the solution is gone, add more water. Use it full strength.—Phenological Magazine.

The Home Treatment of Consumption.

The present movement among sanitarians and philanthropists looking to the mitigation of institutions for the treatment of consumptives will doubtless be productive of much good indirectly by diffusing sanitary knowledge throughout the community. At the best, sanatoria and special hospitals can accommodate only a small proportion of those needing treatment, and the great majority of consumptives must continue, as now, to be treated at home.

This can be done much more efficiently than is generally believed, for the principles of sanatorium treatment can often be applied without much difficulty to the management of individual patients in their own houses. These principles are cleanliness, good air, good food and a quiet mind. Of course, medicinal treatment is necessary. We speak only of what the patient himself can do to aid in his own restoration and to protect other inmates of the house from infection.

The chief source of danger to those living with a consumptive lies in the expectorated matter, and the patient's chief care should be to see that this danger is minimized. He should never expectorate anywhere but in a spittoon partly filled with a strong carbolic acid solution, in a specially constructed pocket flask, which can be bought of surgical-instrument makers, or in a paper handkerchief, which can be burnt after use. The handkerchief pocket should be lined with oil silk or rubber cloth, which can be washed out once or twice a day with a strong antiseptic solution.

The patient should also be very scrupulous in washing his hands frequently, especially before eating, as there is danger to himself of infecting the food, and of causing the more serious condition of consumption of the bowels.

The next thing in the home treatment of consumption is fresh air. The patient should spend most of his time out of doors, in winter as well as in summer. A movable wooden screen can be made which will shelter him from the wind while he lies in the open air. In the city the patient can usually avail himself of the roof for his daily airing. On stormy days he must perforce stay indoors, and then he should sit or recline as near as possible to an open window.

The bedroom windows should never be closed day or night, a screen being used to keep the air from blowing directly upon the patient. The room should be large and sunny, should not be overheated, and should be bare of all unnecessary upholstery and without a carpet, although a few rugs may be allowed. It is better for a consumptive to sleep alone in the room, and in any case he should never have a bedfellow.

The diet should be most nourishing and also pleasing to the palate. Finally, a quiet mind is most necessary to the success of home treatment. The patient should be led to look forward with confidence to an amelioration of his lot, while he devotes his energies to a faithful compliance with all his physician's injunctions.—Youth's Companion.

A Vegetarian View of Cosmetics.

Fruits and nuts are the best cosmetics, so says Dr. J. H. Kellogg in Good Health; but they must be taken intelligently. In other words, a vegetable diet insures a clear skin. The doctor puts it in this way:

"A preparation of apples, grapes, cherries, peaches, figs, bananas, and all other kinds of fruit, combined with nuts of various kinds—almonds, coconuts, hickory nuts—and with well-cooked grains, applied to the inside of the stomach, is the best possible preparation for whitening the skin. The trouble with the skin when it is dingy and dirty is that there is dirt more than skin deep. There are also



SHETLAND PONY.

dirty muscles and a dirty brain, dirty glands, dirty blood, the whole body is contaminated, the dingy color of the skin is merely a sign of the condition of the whole body. Simply to bleach the dirt off the face is a very hypocritical procedure. We make the skin of the face clean while the rest of the body is filled with organic dirt, disease debris, and effete, worn-out and diseased matter which has accumulated as the result of vital work and improper diet. We should be interested in the whole skin rather than in the skin of the face alone."

Dr. Kellogg will not allow that beauty may spring from a meat diet. He says: "To be beautiful we must eat beautiful things. What a beautiful cheek a ripe peach has! Who could wish a complexion more beautiful than the bloom of a peach? The way to get such a bloom is to use the peach itself."

"Now look upon another picture—cynical, small, sprawling frogs, clawing crabs, wriggling shrimps. People eat such things, and then want something to spread on the outside of their faces to make them appear beautiful. If we make the stomach the hold of unclean things, we must expect that the body will be unclean and ugly. There is nothing beautiful in a dead creature—in the corpse of a pig or an ox or a hen lying upon the table. If we eat such things, we must abide the consequences."

Over Eating.

The vice of inordinate liquor drinking is open and above board, and its evils are so palpable that any one may see them. Over eating, on the other hand, is accompanied by evils that none but the sufferer and his physicians know much about. Some years ago no less an authority than Sir Henry Thompson declared that he had been compelled by the facts constantly coming before him to accept the conclusion that more mischief in the form of actual disease, of impaired vigor and of shortened life has occurred to civilized men from excessive eating than from the habitual use of alcoholic drink, considerable as he knew that evil to be.

He also declared himself in doubt whether improper and inordinate eating were not as great a moral evil as inordinate drinking. The fabricators of our food have made, indeed, to answer for. They make digestible raw material into indigestible finished products, and we eat them and suffer. But the cook is not alone to blame. People eat more than they should, and they eat what is agreeable to their palates, knowing that it will not be relished by the stomachs.

The habit of over-eating is commonly contracted in childhood, when ignorance and sensation over-ride moderation of appetite and reasonable caution; the child should be restricted to the food that it naturally needs, and should not be allowed to make a hog of itself. When the growth is attained and the system no longer readily eliminates the waste material not necessary for the ordinary purposes of repair, then the body begins to store up fat beyond what is of use, and fags out the muscles in carrying it around; or, if there is no fatening with over-eating, there is dyspepsia, fever, gout, rheumatism, biliousness and other ills. A temperance organization which should lay down as its fundamental law, abstinence from excessive eating, would do away with the ordinary sicknesses among persons who should live up to the law.—Popular Science.

Domestic Hints.

TONGUE CANAPES.

On bread slice quarter-inch slices, then with a blunt butter stamp into small rounds. Butter the bread, spread with some highly seasoned, devilled tongue, cover with mince of hard-boiled eggs made fine with the tines of a fork, and to the centre of each place a pinhole. Or prepare as ham sandwiches, substituting tongue for ham.

Fruit Punch (Published by Request).

One pineapple, four cups of sugar, three cups of boiling water, one cup of fresh lemon juice, five lemons, six oranges, one pint of strawberry or grape juice, half a pint of Maraschino cherries, one bottle of Apollinaris water, six quarts of water. Grate the pineapple, add the boiling water and the sugar, and boil fifteen minutes. Add the lemons, and strain into a punch bowl. When cold add the fruit juice, the cherries and the cold water. A short time before serving add a piece of ice, and on serving, the Apollinaris water. Strawberries, mint leaves or slices of banana may be used in the place of cherries.—From "Salads, Sandwiches and Chafin-Dish Dainties," by Janet McKee Hill.

CHECKER SALAD.

Stew the entire chicken, and use only the white meat for the salad. Grind the remainder fine, season to taste with salt, pepper and Worcester sauce, add a slice of bread soaked in tepid water and squeezed dry, and bind with beaten eggs and a tablespoon of melted butter or clarified chicken oil. Shape in small rolls, and roll in crushed, roll in flour, egg and crumbs and fry in deep fat, boiling outsoles or lard. Drain and serve with a gravy made of the chicken broth thickened with a little starch and milk. The bones may be boiled with the soup, to which may also be added any remaining chicken broth.

PLAIN SPONGE CAKE.

Three eggs, one cup of sugar, three tablespoons of sweet milk, one cup of flour, one teaspoon of baking powder, flavor, and bake in loaf or sheet and spread with jelly and roll. In cool weather the butter should be softened, as it mixes more readily, and the quicker a cake is ready for the oven the better the result, provided, however, the oven is properly heated.

BROILED TRIPES.

Cook housekeeping tripe in boiling salted water till tender. Drain and dry. Dust with fine cracked crumbs, and then cover with fine crumbs moist-

and can be laundered before it is necessary to send the gown to the tub. This can and will be done, for everything about it, even the lace, will wash like white cotton. There is a drop skirt to the gown, with a wide plaiting around the lower edge, trimmed with white lace. The gown, though so simple, is most effective.

"Among the foreign novelties shown in the shops is a line of illuminated silk and wool evening effects. There are two designs in silk colors, and in every instance the black yarn is thrown to the surface to produce a crepon effect."

"It is said that in England khaki cloth has attained considerable prominence as a fabric for fashioning almost everything from slippers to costumes."

"Among novelties in silks that have met with favor are satin liberties printed in Persian designs of pastel colorings. Foulards have not lost ground, and bid fair to score the spoons that was predicted for them at the opening of the season."

"Elephants, the good luck emblems of 1900, are made in gift or silver into many different articles, such as cuff links, leaf pins, or little charms to attach to chains."

"Bale lace, or good imitation, is certain to take large place among decorations for summer garments. A soft, fine design in Renaissance lace is extensively used in making many of the new blouses and the long transparent sleeves, but satin linings are introduced with advantage if the diaphanous sleeves prove too dreary for a particular occasion. It is a good plan to have a number of silk or satin undersleeves, adjustable so that they can be put in or removed by the alteration of a few stitches. These sleeves in different tints—pale blue, cherry red, mauve, primrose yellow, etc.—can be variously used with matching removable yoke linings and ribbon bows."

"The latest variation in the fashion cable coat dispenses entirely with a part of the bodice, which change the lines materially, while it preserves the natural curves of the figure. This style of corset is especially recommended to wear with the latest gowns."

"The sporty corset coat will not be as much worn by smartly dressed men this spring as heretofore, as there is really no other garment so light and comfortable for morning wear with a sack suit. It will undoubtedly be somewhat used for riding and be much worn by the masses, but if the predictions of some of the best buyers are correct, its days of fashion have passed."

"A fashionable and becoming garment is black velvet ribbon run through the meshes of lace waist or boleros, with tiny buckles of French brilliants of fine cut steel fastened where the strands of velvet appear."

"According to plaited black tulle will be an important factor in the decoration of Easter hats; also loops and bows of black velvet ribbon, graceful and smart and on dress styles and a fascinating mixture of tea roses and foliage. Palm leaves, peach blossoms and white lace on Wilhelmina models."

"Black chiffon buttonholed with dull black silk round the edges is used for trimming mourning bonnets and trunks, and in place of the heavy-plaited blue-white robe inside the widow's cap appears a slender line of snow-white silk round the edges is used for trimming black and white suits."

"No braids or wings are seen on the early hats; flowers in natural effects are to be favored, especially roses of large size. There are also deep blue shaded leaves of all kinds and much rose foliage. After roses come violets, hydrangeas, lilacs and forget-me-nots. Anything having a round effect, like the chon, is employed. Laces will be a great deal also, principally the light French lace for white and black hats. Tulle and chiffon will be much used and combinations of braids and lace which are money in effect."

"A beautiful shade of soft, sable brown bids fair to enjoy a high degree of favor among fashionable spring colors. A handsome French gown of this dye is trimmed with attached straps of cream-white cloth and small gold buttons. The blouse vest and folded collar are of white silk dotted with brown velvet. The under, larger revers collar of the bolero is made of plain sable-brown velvet, the upper one of white cloth, partly covered with narrow straps of the cloth, trimmed with tiny gold buttons and fine gold braid simulating buttonholes. Light color and pale blue, lilac, mauve, and color and color will be abundant this season, and elaborate machine-stitchings, Madeira work and Norwegian silver buttons will form the most fashionable decorations."

"There are buttons on most of the suits, one or two small fancy buttons usually, to give touch of color to the gown, but in some there are small buttons the color of the suit."

"Black chiffon buttonholed with dull black silk round the edges is used for trimming mourning bonnets and trunks, and in place of the heavy-plaited blue-white robe inside the widow's cap appears a slender line of snow-white English crepe or crimped white chiffon sewed in beneath the small brim."

"Nothing is handsomer in the long coats than black, and with the black nothing is more effective than a white satin lining. One of the handsomest of these coats, worn by a woman who wears effective clothes, is of broadcloth. It curves in a little at the waist line in the back, and out over the trained skirt, around the lower edge are two attached bands of the broadcloth. The upper part is of Persian lamb in the form of a sharply pointed yoke and Medici collar, while in both front and back are two pieces of the cloth, coming from the side and pointed like handkerchiefs, the two points meeting over the lamb yoke, the points of which it does not conceal. The flaring edge of the sleeves are lined with the lamb, and the coat is lined with white satin. The whole is distinctly rich and handsome."

"In the Yellowstone National Park is a curious freak of nature. Along a little frequented trail leading to the forest stands a great glacial boulder, twice as large as an ordinary street car, which has been split apart from top to bottom by a pine tree. The tree is thirty or forty years old, and it grows entirely through the boulder of granite, spreading the pieces wide apart on one side, while on the other the crevice remains comparatively small. Everything goes to show that the tree has split the rock by its own force, perhaps assisted each winter by the ice. It seems to have thrived on the task. Though it has moved apart these massive fragments, each weighing hundreds of tons, it is the heaviest tree in that locality."

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Answer: I don't know what you can would improve the situation anyway. I should feed her a moderate quantity of hay, and guard against giving her any very cold water to drink. Let her have the run of the box stall and paddock, and take all precaution possible to prevent an accident. This is about all I can suggest.

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